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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,585

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Ji-bin Yang

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DARBY & DARBY P.C.

P.O. BOX 770

Church Street Station

New York, NY 10008-0770

EXAMINER

MAI, NGOCLAN THI

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

09/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,585	Applicant(s) YANG ET AL.	
	Examiner NGOCLAN T. MAI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-8 is/are allowed.
- 6) ☒ Claim(s) 1 and 9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/2/08, 9/5/06</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prause (U.S. Patent No. 5,774,780).

Prause discloses a tungsten-based sintered material comprising up to 1.0% by weight of crystalline sinter-activating additive, up to 5 % by weight of dopant and the balance being tungsten, wherein the crystalline sinter-activating additive is of group VIII metal with Ni, Pd and/or Pt preferred and the dopant can be formed of oxide of groups IIIB or IVB of the periodic table and the first three elements of the lanthanide and actinides group. See col. 2, lines 9-62. Prause particularly teaches dopants such as Y₂O₃, ZrO₂, La₂O₃, CeO₂ and/or LaB₆ are preferred (col. 2, lines 56-57). Prause also teaches utilizing tungsten powder having mean grain size between 2 and 3.5 µm and dopant having particle size of 1 to 3 µm. See col. 4, lines 55-61.

Prause and the claim differ in that Prause does not specifically teach (1) yttrium oxide in a range of from 0.1 to 1% by mass. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the types of dopant and their proportions (i.e., up to 5 wt.%) taught by Prause overlap the instantly claimed dopant and proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any dopant having a proportion of the disclosed ranges including the instantly claimed dopant and

Art Unit: 1793

proportion from the ranges disclosed in the prior art reference, particularly in view of the fact that; “The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003). Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Prause and the claim also differ in that Prause does not particularly teach the particle diameter of nickel phase. Prause however teaches nickel can be added to the metal powder as a thin layer on the tungsten grain surface for effective activation of the sintering process or it can be added as metal powder to the matrix material (i.e., tungsten powder). See col. 3, lines 33-61. It would have been obvious to one skilled in the art to utilize nickel powder having particle size of 5 μm at most, since both the matrix material powder and dopant powder have particle size at most of 5 μm .

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prause in view of Leichtfried et al. (U.S. Patent No. 6,090,227).

Prause teaches the sintered body can be used as melting crucibles. See col. 1, lines 11-13 and col. 7, lines 1-7. Prause however does not teach the crucible is for optical glass lenses. Leichtfried et al. discloses a structural units for glass melts and ceramic melts wherein the units are made from tungsten alloy comprising one or more oxides and/or silicates of the elements Zr, Hf, Al, Ca, Mg, Y, La, Ce, Pr, Nd, Gd, and Er. See col. 2, line 41 to col. 3, line 36. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ the sintered body taught by Prause as the mold for melting glass as this is known for such

Art Unit: 1793

purpose as taught by Leichtfried since the use of conventional materials to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).

Allowable Subject Matter

4. Claims 2-8 are allowed. None of the prior art teaches or suggestion the sintered material comprising tungsten as a main material, nickel, and yttria in combination with material such as vanadium carbide, cobalt, iron, and/or at least one of Mo, Cr, Nb, and Rh and in the amounts as recited in the claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOCLAN T. MAI whose telephone number is (571)272-1246. The examiner can normally be reached on 8:30-5:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

n.m.